REMARKS/ARGUMENTS

Applicants note with appreciation that the Examiner has indicated that claims 3-6, 22-24, and 27-28 are allowed. Claims 7, 10, 25, 26, 29, 31, and 43-44 are rejected under 35 U.S.C. 103(a). Claims 9, 11-21, 30 and 32-42 are objected to as being dependent upon a rejected base claim.

In this response, no claims are amended, cancelled or added. Claims 3, 5-7, and 9-44 remain pending in the application. Reconsideration of the claims is requested in light of the remarks set out below.

1. 35 U.S.C. § 103(a): Rejection of Claims 7, 10, 25-26, 29, 31 and 43-44

The Office rejects claims 7, 10, 25-26, 29, 31 and 43-44 under 35 U.S.C. § 103(a) as unpatentable over U.S. No. 5,315,580 to Phaal (hereinafter "Phaal") in view of U.S. Patent No. 6,292,466 to Droz (hereinafter "Droz"). Applicants respectfully traverse these rejections.

Applicants' claim 7 recites a method that comprises steps for sampling a set of packets at a network interface of a switch. In the method, the sampling includes steps for adaptively altering a fraction of the packets for selection (e.g., for sampling) by maintaining a queue of selected packets and altering the fraction of selected packets in response to a length of the queue. The method is useful for monitoring network traffic.

Applicants note with appreciation that the Office agrees that Phaal does not teach or suggest a "feedback element for adaptively altering a fraction of packets for review that is in response to a length of a queue of selected packets." (Office Action at page 3.) However, Applicants disagree that such a structure would be obvious to one skilled in the art based on the teachings of Droz.

According to the Office, Droz teaches "a sampler 27 [that] does periodic traffic measurements by counting the cells transferred into buffer 15. The samples generated by sampler 27 consist of the cell counts divided by the period length ▲t . . . sampling frequency depends on the link speed and the buffer size." (Office Action, at page 3, citing Droz).

In order to render a claim obvious, a combination of references must, either individually or in combination, teach each and every limitation of the claim. As noted by the Office in the Office Action, Phaal does not teach or suggest a method wherein

"said steps for adaptively altering a fraction of said packets for selection include steps for

maintaining a queue of selected packets; and

altering said fraction in response to a length of said queue." (see claim 7.)

Droz also does not teach or suggest these limitations. Specifically, Droz does not teach a method wherein steps for altering a fraction of packets for selection include steps for "maintaining a queue of selected packets", as claimed in claim 7. Although Droz discloses a buffer, which, for the sake of argument, is considered analogous to a queue, the buffer in Droz is not a queue or buffer of "selected packets", as claimed. The packets in the buffer of Droz include all "cells received at input port 11" (see Droz, col. 5, lines 23-25). The Droz buffer does not store packets that have been subject to a sampling or selection process, but, rather, simply stores all packets that are to be transmitted across the network.

Furthermore, because of the difference(s) that have been pointed out between the claimed queue and the Droz buffer, Droz also cannot teach a method wherein steps for altering a fraction of packets for selection include "altering said fraction in response to a

length of said queue [of selected packets]", as claimed in claim 7. Once again, the buffer in Droz holds all cells or packets that are destined for transmission across the network, and, unlike the method recited in claim 7, does not store selected or sampled packets. Because the buffer of Droz is not a buffer or queue of selected packets, Droz cannot possibly teach altering a fraction of packets in response to a length of a queue of selected packets.

Accordingly, the sampling rate in Droz depends on the total amount of all cells to be transmitted over a network that are stored in a "leaky bucket" buffer prior to transmission, and prior to any sampling. (See Droz, col. 5, lines 22-25). In contrast, claim 7 recites a method in which the sampling rate is adaptively altered based on the size of a queue that holds sampled packets. As such, the methods of Droz and the method claimed in claim 7 are fundamentally different in structure and function. Many advantages could arise from implementing the method recited in claim 7. For example, in an embodiment, by segregating the sampled packets in a separate queue, the segregated packets may be searched for the occurrence of a particular type of packet in order to measure the frequency of the particular type of packet among the sampled packets.

Droz's use of the term "sampler" (i.e., "sampler 27") may be inaccurate. Sampler 27 of Droz merely counts the number of cells that are transferred into buffer 15 over a particular time period. (see Droz, col. 5, lines 40-42). Mere counting in this manner does not constitute "sampling". In contrast, in an embodiment, applicants' "sampling element 120 . . . sample[s] one out of every N packets . . ." (see application at page 10, lines 21-22). The sampled packets are stored in a separate queue and, because they are

segregated, may, in an embodiment, be subject to further analysis or processing. Applicants' structure is useful and efficient in traffic monitoring.

Moreover, there is no motivation to combine Phaal and Droz because Phaal teaches away from the use of buffers such as those employed in Droz. Specifically, Phaal uses very small buffers "sufficient to hold only two or three entries" (Phaal, col. 5, lines 67-68). Phaal dismisses the use of larger buffers by stating that such are unnecessary because occasional overflow will "generally have a minimal effect on the statistical measurements being conducted by the network monitoring system." (Phaal, col. 6, lines 5-9). As such, because Phaal explicitly indicates that there is no reason to improve upon the limited buffers disclosed therein, one skilled in the art would not be motivated to combine the generally larger buffers of Droz (see Fig. 1 of Droz, showing a buffer with much more than two or three entries) with the subject matter disclosed in Phaal.

Based at least on the foregoing reasons, Applicants submit that the rejection of claim 7 under 35 U.S.C. § 103(a) is improper. Accordingly, withdrawal of the rejection of claim 7 is respectfully requested.

Claims 10 and 25-26 each depend from claim 7, and, therefore, each of these dependent claims contains all of the limitations of claim 7. These dependent claims are not rendered obvious by the references of record at least for the reasons stated above for which claim 7 is not rendered obvious by the references of record. Furthermore, claim 10 claims a method as in claim 7, wherein said steps for adaptively altering a fraction of said packets for selection include steps for altering said fraction in response to two or more factors responsive to said selected packets. Applicants are unable to find any teaching or suggestion of these limitation(s) or other additional limitation(s) in any of the references of record.

Claim 25 claims a method as in claim 7, wherein a default value for said fraction is selected response to a bandwidth of said network interface. Claim 26 claims a method as in claim 25, wherein said fraction is adaptively altered based on a presence or absence of a particular type of packet selected from among plural types of packets. Applicants are unable to find any teaching or suggestion of these limitation(s) or other additional limitation(s) in any of the references of record.

Claim 29 is an independent computer-readable medium claim corresponding to the method of claim 7. Claims 31 and 43-44 are dependent claims depending from claim 29. Therefore, claims 29, 31 and 43-44 are patentable over the cited art at least for the reasons pointed out above in respect of claim 7.

At least for the foregoing reasons, Applicants request withdrawal of the rejection of dependent claims 10, 25-26, 29, 31, and 43-44 under 35 U.S.C. § 103(a).

2. Rejection of Dependent Claims 9, 11-21, 30, and 32-42

Claims 9, 11-21, 30, and 32-42 were rejected as being dependent on a rejected base claim. All of these claims are dependent on claim 7. Above, Applicants have presented reasons why the rejection of claim 7 is improper. Accordingly, the rejected dependent claims depend from an allowable base claim and further limit each such base claim: Therefore, withdrawal of the rejection of claims 9, 11-21, 30 and 32-42 is respectfully requested.

3. Miscellaneous

The Applicants believe that all issues raised in the Office Action have been addressed and that allowance of the pending claims is appropriate. Entry of the amendments herein and further examination on the merits are respectfully requested.

The Examiner is invited to telephone the undersigned at (408) 414-1210 to discuss any issue that may advance prosecution.

No fee is believed to be due specifically in connection with this Reply. To the extent necessary, Applicants petition for an extension of time under 37 C.F.R. § 1.136. The Commissioner is authorized to charge any fee that may be due in connection with this Reply to our Deposit Account No. 50-1302.

Respectfully submitted,

HICKMAN PALERMO TRUONG & BECKER LLP

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Thomas J. Treutler
Reg. No. 51,126

1600 Willow Street
San Jose, California 95125-5106
Telephone No.: (408) 414-1080
Facsimile No.: (408) 414-1076

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on September 4, 2003 (Date) by Sheila Severinghaus